Applic. No. 10/540,336

Amendment: August 18, 2008

Docket No.: 2002.750US

(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Cornelis Marius Timmers

Application No.: 10/540,336

Confirmation No.: 8846

Filed: January 10, 2006

Art Unit: 1625

TETRAHYDROQUINOLINE DERIVATIVES Examiner: David K. O'Dell For:

## **DECLARATION UNDER 37 C.F.R. § 1.132**

I, CORNELIS MARIUS TIMMERS, of Boterbloem 26, 5351 MV, Berghem, The Netherlands, declare as follows:

## I. BACKGROUND

- 1. I am a named co-inventor of U.S. application Serial No. 10/540,336 ("the '336 application") filed January 10, 2006.
- 2. I received my PhD degree in 1997 from Leiden University, The Netherlands. Since 1997, I have worked for Organon as (senior) research scientist. I am currently Organon's senior director Lead Optimization. In that position, I am responsible for providing medicinal chemistry support to various project teams in Lead Optimization.
- 3. I have reviewed and understood the specification and claims of U.S. patent application Serial No. 10/540,336 entitled "Tetrahydroguinoline Derivatives".

## II. TETRAHYDROQUINOLINE DERIVATIVES OF TO THE PRESENT APPLICATION

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- 4. I have carefully reviewed the examples in the application describing the preparation of tetrahydroquinoline derivatives.
- 5. I have carefully reviewed the method of determining CHO-FSH bioactivity as described in the specification of the present application and as set forth in Example 51 of the specification.
- 6. The attached table accurately reflects the chemical structure of each of the 50 examples and the bioactivity for each of these examples as obtained at the time the present application was filed. The term "FSH\_AGOCHO EC50" in the table reflects the EC50 value for agonist activity of the particular compound with respect to the FSH receptor which is expressed in CHO cells for the assay described in Example 51 of the specification. The term "FSH\_ANTCHO EC50" in the table reflects the EC50 value for antagonist activity of the particular compound with respect to the FSH receptor which is expressed in CHO cells for the assay described in Example 51 of the specification.
- 7. An EC50 value of less than 1.00E-5 for FSH\_AGOCH indicates that the particular compound in the table is considered to have agonist activity. An EC50 value of less than 1.00E-5 for FSH\_ANTCHO indicates that the particular compound in the table is considered to have antagonist activity. Some compounds in the table have an EC50 value of less than 1.00E-5 for both FSH\_AGOCHO and for FSH\_ANTCHO and these compounds are considered to have both agonist activity and antagonist activity at different concentrations of the particular compound.

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III. CONCLUSION

8. In summary, the attached table provides both structural information and

bioactivity data for each of the compounds of examples 1 to 50 of the present application.

These compounds are exemplary for the class of compounds described by formula 1 as in

the present application and show either agonist activity, antagonist activity or both with

respect to the FSH receptor according to the assay described.

9. I declare that all statements made herein are true, and that all statements

made herein on information and belief are believed to be true, and that all statements are

made with the knowledge that willful false statements and the like so made are

punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United

States Code, and that any willful false statement may jeopardize the validity of any

United States Patent that would issued from the '535 application.

Dated:

19 Hay 2008 Signed: 5

Cornelis Marius Timmers

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TABLE 1

89					
88					
R6 R7	diMeOCIPh	diMe-2-furyl	Br-thiophenyl	biphenyl	furyi
R5	ОМе	OMe	OMe	OMe	OMe
<b>F</b> 4	OMe	OMe	OMe	OMe	Ю
	OMe	ОМе	OMe	OMe	OMe
R1,R2	Me	Me	Me	Me	Ν
FSH ANTCHO EC50	> 1.0000 F.05	2.678E-07	1.904E-07	4,455E-07	3.914E-08
FSH_ AGOCHO EC50	2.70E-06	> 1.00E-05	> 1.00E-05	> 1,00E-05	> 1,00E-05
COMMON					
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diOIPh	Ci-thiophenyl	biphenyl	biphenyl	biphenyl	4,5-dimethylfuranyl
OMe	OMe	OMe	7	OMe	OMe
Ю	공	OH	OH	OH	OH OH
ОМе	OMe	ОМе	OH	9 H	OMe
Me	Me	Me	e ⊠	S N	₩ W
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>1.000E-05	1.390E-08	3.900E-08	1.267E-07	6.036E-09	5.10E-08
9.08E-08 >-1.000E-05	> 1.00E-05 1.390E-08	> 1.00E-05 3.900E-08	> 1.00E-05 1.257E-07	> 1.00E-05 6.036E-09	3.40E-07 5.10E-08

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2- pyridinyl	3- pyridinyl	4- pyridinyl		amino carbonyl	
			dimethylam		morpholino carbonylam ino
R9-methoxy	R9-methoxy	R9-methoxy	R8-ethoxy	R9-methoxy	R8-ethoxy
biphenyi	piphenyl	biphenyl	biphenyl	biphenyl	biphenyl
R7	R7	R7	R7	R7.	R7
I	I	I	I	I	I
I	I	I	I	I	I
e W	e W	Me	Me	₩ We	Me
1.591E-08	1.316E-08		2.383E-07		4.421E-67
> 1.00E-05	× 1.00E-05	8.80E-08	> 1.00E-05	1.56E-07	> 1:00E-05
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5.75E-07	2.57E-06	> 1.00E-05	1.456-07	3.10E-07	5.37E-07
± 1.000 <b>E-05</b>	<b>6.930E-06</b>	2.720 <u>E</u> .06	× 1.000E.05	× 1.000 E	> 1.000E-05
Me	Me	Me	Me	Me	Me
x	I	I	I	I	I
I	π	Ι	I	I	I
R7	R7	R7	R7	R7	R7
dibromophenyl	dibromophenyl	dimethylphenyl	dimethylphenyl	dichlorophenyl	dimethylphenyl
furylcarbonylox y	R8-ethoxy	R8-ethoxy	R9-methoxy	R9-methoxy	R8-ethoxy
	amino	tert- butoxycarb onylamino			pyrrolidinyl
			2-furyl	4- pyridinyl	

5-methyl isoxazol-	3-yf		pyridinyl			
	diathylamin	0				
	R9-methoxy	R8-ethoxy	R9-methoxy	diMe-amino	diMe-amino	dimethylamino
	dimethylphenyl	dimethylphenyl	Br-NMe-phenyl	2-furyl	5-Me-thiophen-2yl	biphenyl
	Д 7.	В7	R7.	R7	R7	H7
	I	I	I	I	I	I
	I	I	I	I	I	I
	Me	Me	Me	Me W	<b>⊗</b>	Me
	> 1.000E-05	>1.000E-05	> 1.000E-05	8.190E-08	5.6605-08	3.00E-08
	2.11E-07	481E-07	3.63E.07	× 1.00E-05	> 1.00E-05	> 1,00E-05
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	8	(7)	8	က္က	8	8

dimethylamino	dimethylamino	dimethylamino	Furylcarbonyla mino	prop-amino	Et-amino
dibromophenyl	cyclopentyl	isopropyl	2-furyl	5-Me-thiophen-2yl	biphenyl
R7	R7	R7	R.7	R7	B7
I	Ι	#	I	I	エ
I	I	I	工	I	I
We	We	We We	Θ W	Me	Me
> 1.000E-05	4.80E-09	2.80E-08	> 1.000E-05	2.760E-07	7.230E-08
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4. 30.			<u>\$</u>	¥ +,00	> 1.00E-05
			<b>.</b>	<b>00</b>	80 × × × × × × × × × × × × × × × × × × ×

4	Pyrion Sy.	pyridinyt		phenyl	phenyl	pyridinyl
R9-	meliyiainin M9-	methylamino	isobutylamino R9-	methylamino	nethylamino	HG- methylamino
	5-Ivie-thiophen-z.yr	5-Me-thiophen-2yl	dibromophenyl	biphenyl	5-Me-thiophen-2yl	dibromophenyl
į	È	R7	R7	R7	R7	R7
Ξ	E	I	I	I	I	I
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<u>:</u>	<u> </u>	Θ <b>W</b>	Me	Me	Me	Me
	A	E-05 3.310E-67	4.53E-07 > 1.000E-05	E-05 5.130E-08	E:05 5.290E-08	1.14E-07 6.160E-08
		* 4 00E 05		> 1.00E-05	100 100 100 100 100 100 100 100 100 100	-
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